A Network Systems Solution

UNICOM™

Pro-*Switch*/8F

8 Port 100FX
Fast Ethernet Switch

FEP-37008-C (SC)
FEP-37008-T (ST)

A Network Systems Solution

UNICOM™

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USER'S MANUAL

Package Contents

Package contents include the following:

- **Pro-Switch/8F**; 100Base-FX Fast Ethernet Switch
- Power cord
- Four (4) adhesive-backed rubber feet
- Rack-mount brackets
- User's manual
- Warranty card

Pro-Switch/8F   **Power Cord**   **User's Guide**   **Rubber Feet**

**Rack-mount
Brackets with screws**
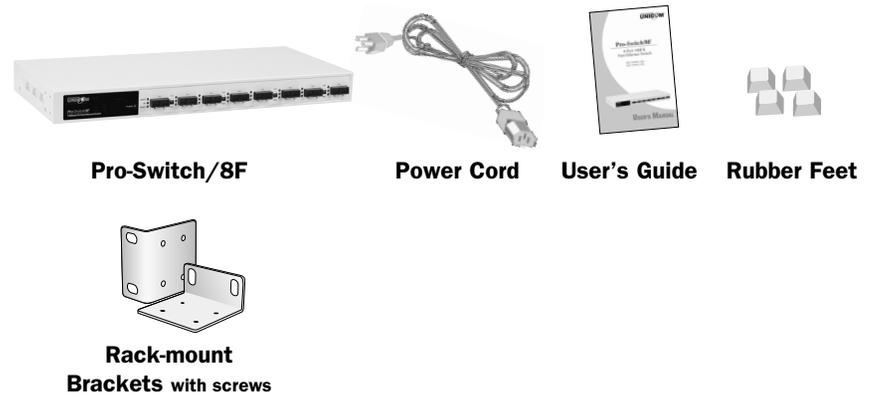
IMPORTANT: If any piece is missing or damaged, please contact your local dealer or reseller for service.

- -

For Your Records

Product Name: _____

_____

Serial Number: _____

Date of Purchase:_____

Purchased from: _____

Notes: _____

_____

Table of Contents

For full coverage of your warranty, be sure to register your product using the enclosed registration card.

Preface

Benefits of Switching

Ethernet switching technology has dramatically boosted the total bandwidth of a network. It puts configuration flexibility and bandwidth adaptability into the local workgroups where the majority of work is generated.

It further eliminates congestion problems inherent to the CSMA/CD protocol and improves predictable response time under heavy network loads. In the past, expensive routing equipment was used to reduce the congestion under heavy loads. Now, high performance switch gear is affordable and available in the compact, desktop units.

Introduction

The 8 Port **Pro-Switch/8F** is a high-speed, professional-grade Fast Ethernet switch that provides wire-speed, a Fast Ethernet switching technology that allows high-performance, low-cost connections up to Full-Duplex, 100Mbps Ethernet networks. With the Fiber Optic ports, this is a perfect, flexible backbone switch.

Key Features

- 8 Dual-speed 100Base-FX ports.
- Full- and Half-Duplex capability on each TX port.
- Dip Switch for Full- and Half-Duplex setting on Fiber ports.
- Designed in compliance with IEEE 802.3u 100Base-FX standards.
- Supports 802.3x Flow Control pause packet for Full-Duplex in case buffer is full.
- Supports Back Pressure function for Half-Duplex operation in case buffer is full.
- Supports Store & Forward architecture and performs forwarding and filtering at non-blocking full wire speed.
- Broadcast Storming Filter function.
- Comprehensive array of LED indicators that communicate the status of the switch and troubleshooting information.

Specifications

|	
Standards:	100Base-FX, IEEE 802.3u
Ports:	100Base-FX
Speed:	100Base-FX: 200Mbps full-duplex 100Mbps half-duplex
Performance:	148,800pps forwarding rate per port.
LED Indicators:	POWER, LNK, ACT, FDX
Dimensions:	440 X 205 X 45mm Rack-mount size
Weight:	2.8kg (6.2lb)
Power Input:	100 ~ 250 VAC, 47/63 Hz, 2A
Power Consumption:	12 W
Operating Temperature:	32˚ ~ 104˚ F (0˚ ~ 40˚ C)
Humidity:	10 ~ 90%, non-condensing
Altitude:	10,000 ft (3048 m)
Emissions:	FCC part 15 Class A, CISPR Class A, VCCI-I CE Mark
Safety:	UL
Warranty:	Limited Lifetime Warranty

Network Application

This section provides a few samples of network topology in which the Switch is used. The **Pro-Switch/8F** is designed to be used as a backbone switch. With its large address table (4000 MAC address), Fiber ports, and high performance, it is ideal for connecting WANS to LAN network segments.

You can use the **Pro-Switch/8F** to connect multiple floors of a building or even multiple buildings via the fiber optic ports. The switch automatically learns node addresses, which are subsequently used to filter and forward all traffic based on the destination address. The distance between two switches via fiber cable can be up to 2 km (Multi-Mode) or 15 km (Single Mode).

Figure 6.

Inter-building Application
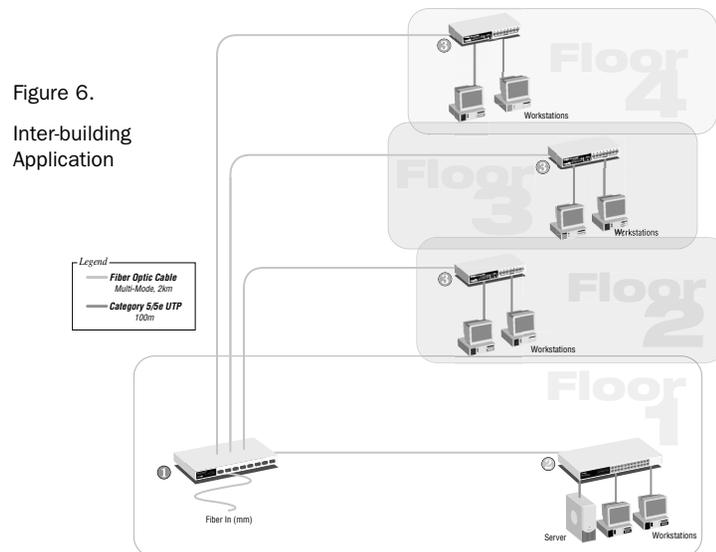
Segment Bridge

For enterprise networks where large data broadcasts are constantly processed, this switch is an ideal backbone solution.

Hardware Description

This Section describes the hardware of the **Pro-Switch/8F** and gives a physical and functional overview of its features.

The Front Panel

The front panel consists of (8) fiber ports, DIP switches, and LED Indicators.
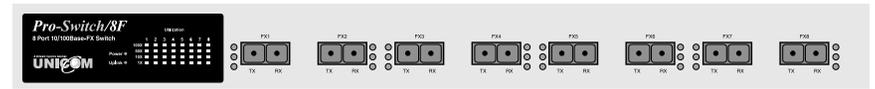
Figure 1.   Front Panel view of **Pro-Switch/8F**

Ports

The 100Base-FX ports are capable of accepting 100Base-FX connections only.

When connected to a 100Base-FX network, the ports operate at 100Mbps in half-duplex mode and 200Mbps in full-duplex mode.

The maximum range of an FX fiber link between a switch and another device is up to 2 Km. using Multi-mode, 62.5/125μ fiber-optic cable or up to 75 Kilometers using Single, 10/125-μ fiber optic cable.

The following table summarizes the port and cable specifications for this switch.

Speed	Connector	Port Speed	Cable
100BASE-FX	Straight-tip (ST or SC)	100/200 Mbps	62.5/125 micron fiber-optic cable
100BASE-FX	Straight-tip (SC)	100/200 Mbps	10/125 micron fiber-optic cable

DIP-Switch Setup

The DIP-switch is used to configure full- or Half-duplex switching. The DIP-switch setup is as follows:

| Position	Description
UP:	Enables Full-Duplex Operation for 100Based-FX ports (default)
DOWN:	Enables Half-Duplex Operation for 100Based-FX ports

Figure 2. LED view of **Pro-Switch/8F**

Power On

Connect the power cord to the power socket on the rear panel of the Switch. The other side of power cord connects to the power outlet. The internal power supply in the Switch works with AC in the voltage range 100-240VAC, frequency 50~60Hz. Check the power indicator on the front panel to see if power is properly supplied.

Rackmount Installation

Included with the **Pro-Switch/8F** are brackets allowing the switch to be mounted in a standard EIA-sized, 19-inch rack. The Switch can be placed in a wiring closet with other equipment.

Perform the following steps to rack mount the switch:

A. Align one bracket with the holes on one side of the switch and secure it with the small bracket screws. Then attach the remaining bracket to the other side of the Switch.
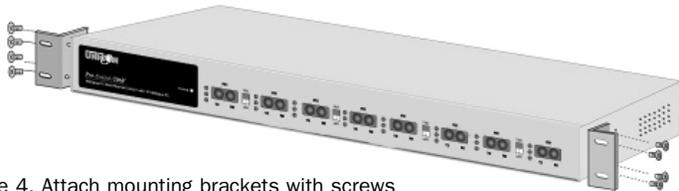
Figure 4. Attach mounting brackets with screws

B. After attaching both mounting brackets, position the **Pro-Switch/8F** in the rack by lining up the holes in the brackets with the appropriate holes on the rack. Secure the Switch to the rack with a screwdriver and the larger rack-mounting screws.
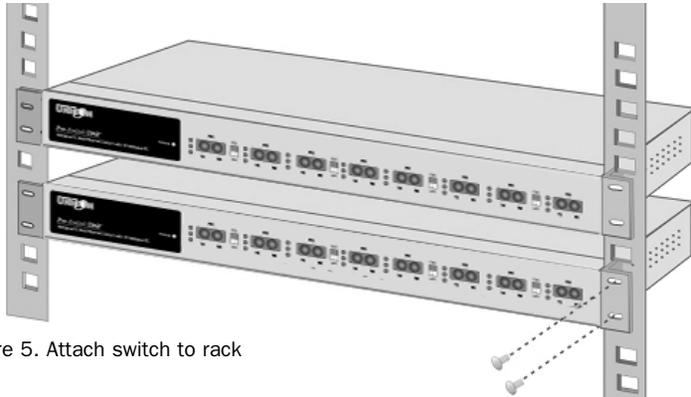
Figure 5. Attach switch to rack

Note: For proper ventilation, allow at least 4" (10 cm) of clearance at the front and 3.4" (8 cm) at the back of the Switch. This is especially important for an enclosed rack installation.

LEDs

Per Device:	Power
Per Port:	LNK (Link)
	ACT (Activity)
	FDX (Full Duplex)

The LED Indicators gives real-time information of systematic operation status. The following table provides descriptions of LED status and their meanings.

LED	Status	Color	Description
Power	On	Green	The switch is supplied with suitable power.
LNK/ACT	On	Yellow	The port is successfully connected to a device.
	Blinks	Yellow	The port is transmitting or recieving data.
	On		The port is NOT successfully connected to a device.
100	On	Yellow	The port is operating at 100Mbps
FDX/COL	On	Green	The port is operating in Full-Duplex mode.
	Blinks	Green	The port is experiencing data collisions.
	Off		No device connected or if the LINK/ACT light is on, port is connecting in Half-duplex

Activity Status LEDs

TX: Transmit Data
RX: Receive Data

Connecting to Power

Connect the supplied AC power cord to the receptacle on the back of the switch, and then plug the cord into a standard AC outlet with a voltage range from 100 to 250 VAC.
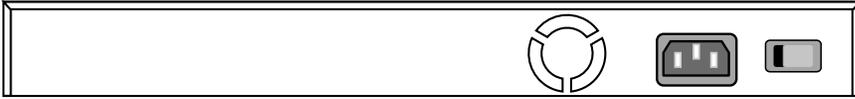

Figure 3. Rear panel view of **Pro-Switch/8F**

Turn the switch on by flipping the ON/OFF switch on the rear of the unit to the I (ON) position. The O position is OFF.

General Installation

This chapter presents step-by-step installation instructions for this eight-port Ethernet Switch.

Selecting a Site for the Switch

As with any electronic device, you should place the Switch where it will not be subjected to extreme temperatures, humidity, or electromagnetic interference. Specifically, the site you select should meet the following requirements:

- The room temperature should be between 32 and 104 degrees Fahrenheit (0˚- 40˚ Celsius).

- The relative humidity should be less than 90%, non-condensing.

- Surrounding electrical devices should not exceed the electromagnetic field (RFC) standards for IEC 801-3, Level 2 (3V/M) field strength.

- Make sure that the switch receives adequate ventilation. Do not block the ventilation holes on the side of the switch or the fan exhaust port on the rear of the switch.

- The power outlet should be within 1.8 meter (6 feet) of the switch.